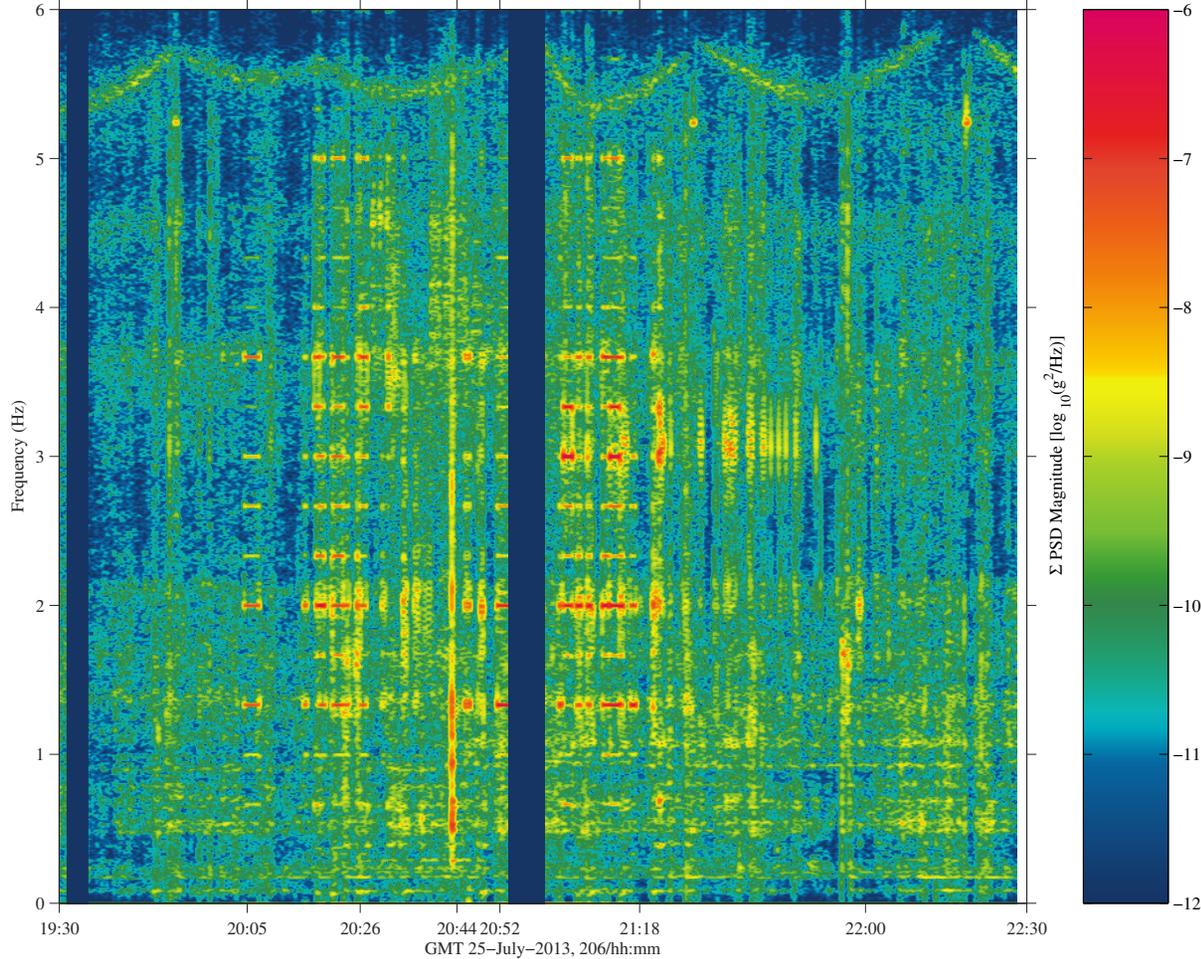


Progress 50P Undocking Qualify

sams2, 121f03006 at LAB1O1, ER2, Lower Z Panel[191.54 -40.54 135.25]
 142.0000 sa/sec (6.00 Hz)
 $\Delta f = 0.009$ Hz, Nfft = 16384
 Temp. Res. = 9.746 sec, No = 15000

Progress 50P Undocking
 Start GMT 25-July-2013, 206/19:30:00.001



from: mmscyoda/pubpad/.traval, 16-Aug-2013,1351:14.619

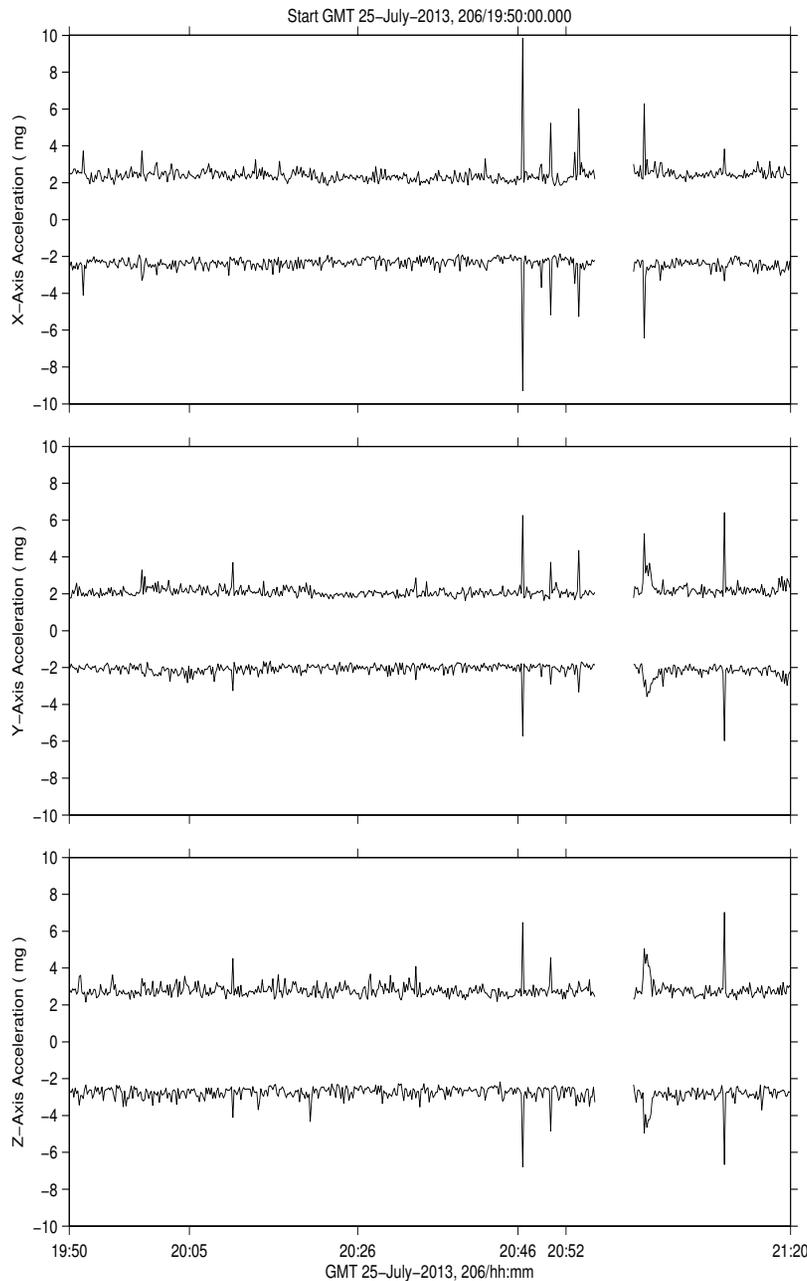
Description	
Sensor	121f03 142 sa/sec (6 Hz)
Location	LAB1O1, ER2, Lower Z Panel
Plot Type	spectrogram (Σ); $f < 6$ Hz

Notes:

- The Progress 50P vehicle undocked from the ISS on GMT 25-July-2013 with physical separation reported to occur at about 20:44. SAMS measurements low-pass filtered at 6 Hz in this spectrogram show clear indication of this transient, impulsive activity right at about the time of physical separation as orange-to-red vertical streak at that time.
- This spectrogram also shows structural mode excitation ostensibly from the handover to Russian attitude control between about 20:00 and 22:00. For more details see ancillary info on the last page.

Regime:	Vibratory
Category:	Vehicle
Source:	Progress 50P Undocking





Progress 50P Undocking Quantify

Description	
Sensor	121f03 500 sa/sec (200 Hz)
Location	LAB1O1, ER2, Lower Z Panel
Plot Type	10-sec interval min max

Notes:

- This 3-axis plot of acceleration versus time shows 10-second interval min/max values from SAMS measurements to reveal that at higher frequencies, the primary impact of the Progress undocking event was due not to physical separation, but as part of the Russian “snap and hold” afterwards. This impulsive event registered on the X-axis with a peak-to-peak value of just under 20 mg.
- Note the lack of discernible impulse at the time of physical separation at 20:44 due to the nature of the measurements. This event is not readily discerned in time domain data for measurements up to 200 Hz.

Regime:	Vibratory
Category:	Vehicle
Source:	Progress 50P Undocking



Progress 50P Undocking Ancillary Information

GMT Notes from As-flown Time Line (ATL)

20:00 handover US to RS [attitude control]
20:05 start maneuver to 50P undocking attitude
20:26 stop maneuver to 50P undocking attitude
20:40 start free drift for undocking Progress from DC1
20:44 physical separation of vehicle
20:45 stop free drift
20:45 start RS snap and hold
20:52 stop RS snap and hold
20:52 start maneuver to undocking LVLH TEA
21:18 stop maneuver to undocking LVLH TEA
22:00 handover RS to US momentum management

The following narrowband vibrations were excited in the structural mode regime during Russian attitude control period as described on the first page:

1.33 Hz
2.00 Hz
3.00 Hz
3.33 Hz
3.67 Hz

